

REMARKS

Commensurate with their broad and complete disclosure, Applicants are presenting in this Rule 1.62 continuation application new claims 284-328 which are again directed to a detection process based upon the use of Applicants' base, sugar and phosphate moiety labeled nucleotides.

It is noted that the numbering of the new claims begin with "284" in order to conform with 37 C.F.R. §1.126. Claim 283 (now cancelled) had been added by Applicants' February 3, 1995 Amendment filed in the parent application (Serial No. 07/954,772).

The specification has been amended in a number of instances as follows. **First**, although Applicants amended the title of the invention in their February 3, 1995 Amendment, a new title believed to be even more descriptive of the invention has been substituted above. **Second**, Applicants have updated the citations for various patents and patent applications referenced in the specification. These citations occur in the first two pages of the specification. It is believed that the updated citations will serve to enhance the readability of the present disclosure by alerting future readers and examiners to the patent numbers cited and incorporated by reference therein. In connection with the updated citations, Applicants note that two patents have already issued in the family to which the instant application belongs. The first, U.S. Patent No. 5,328,824, issued on August 31, 1993 for "Base Moiety Labeled Detectable Nucleotide," and the second, U.S. Patent No. 5,260,433, issued on November 9, 1993 for "Saccharide Specific Binding System Labeled Nucleotides." For the Examiner's review, copies of the aforementioned U.S. Patent Nos. 5,328,824 and 5,260,433 are attached as Exhibits B and C, respectively. In addition, a copy of U.S. Patent No. 5,449,767 that issued on September 12, 1995 is attached as Exhibit D. The '767 patent is incorporated by reference in the instant specification on page 52, lines 20 and 21 (as amended above). **Third**, a minor misspelling on page 103 (lymphokines) has been corrected. **Finally**, a new abstract, also believed to be more descriptive than the previous abstract, has been submitted as Exhibit A to this paper.

It is believed that no new matter has been inserted by any of the foregoing amendments to the specification, or the presentation of new claims 284-328.

Submission of Information Disclosure Statement

In the November 4, 1994 Office Action (bottom of page 2) issued in the parent application, the Examiner indicated that "a PTO Form 1449 has been filed 6/28/93 but that it has not been executed nor a copy enclosed since no copies of the references cited thereon have been filed in the instant application." In response, Applicants are submitting one hundred and two (102) documents attached as Exhibits 1-102 to their concurrently filed Supplemental Information Disclosure Statement Under 37 C.F.R. §§1.56 & 1.97-1.98. A completed Form PTO 1449 has also been attached to their IDS as Exhibit 103.

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The fee for new claims 284-328 (one independent claim, 48 total claims) is \$428.00, based upon an excess of nine (9) claims above the thirty-nine (39) claims previously paid with the continuation request [9 X \$22.00 = \$198.00], and the first presentation of multiple dependent claims [\$230.00]. The Patent and Trademark Office is hereby authorized hereby to charge the amount of \$428.00 to Deposit Account No. 05-1135. In the event that any other fee is due in connection with this Preliminary Amendment or the accompanying IDS, authorization is also hereby made to charge any such other fee to Deposit Account 05-1135, or to credit any overpayment thereto.

Early and favorable action on all of the claims in this application, 284-328, is respectfully urged.

Respectfully submitted,



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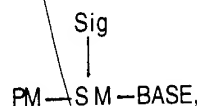
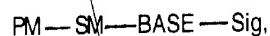
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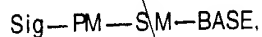
**NUCLEIC ACID HYBRIDIZATION DETECTION PROCESS USING BASE,
SUGAR AND PHOSPHATE MOIETY LABELED NUCLEOTIDES**

Abstract of the Disclosure

The present invention provides a process for detecting a nucleic acid of interest in a sample using base, sugar and phosphate moiety labeled nucleotides. The process comprises hybridizing the nucleic acid sought to be detected with an oligo- or polynucleotide comprising at least one nucleotide having any of the formulae:



and



wherein PM is a phosphate moiety, SM is a sugar moiety, BASE is a pyrimidine, purine or 7-deazapurine, and Sig is a detectable moiety. Following such hybridization, detection is carried out to determine the presence of any of the oligo- or polynucleotides which have hybridized to the nucleic acid of interest. The process is useful for detecting etiological agents, including bacteria, virus and fungi, and may also be used for detecting nucleic acids associated with genetic disorders, as well as for chromosomal karyotyping.